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ATLANTIC FISHERIES ADJUSTMENT PROGRAM
PROGRAMME D'ADAPTATION DES PÊCHES DE L'ATLANTIQUE

1990 Report on Fishing Vessel Performance Scotia-Fundy Region

Economic and Commercial Analysis Report No. 103

Fisheries and Oceans Pêches et Océans

Canada

1990 Report on Fishing Vessel Performance Scotia-Fundy Region

Economic Analysis Division
Program Coordination and Economics Branch
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ABSTRACT

Characteristics of Scotia-Fundy vessels involved in the mixed fishery are presented in this report. Included are descriptions of vessel physical characteristics, investment profiles, catch and effort and financial performance.

RÉSUMÉ

On présente ici les caractéristiques des bateaux de la région de Scotia-Fundy qui pratiquent la pêche diversifiée. Notamment des caractéristiques physiques, les profils d'investissement, des données sur les prises et sur l'effort de pêche ainsi que le rendement financier de ces bateaux.

INTRODUCTION

Various components of the Scotia-Fundy fishing fleet are surveyed yearly for vessel performance information. Approximately one-third of the active fleet is covered each year. By the end of a three year cycle, samples of the entire active Scotia-Fundy fleet under 65 feet in length overall (LOA) are surveyed. The 1990 Vessel Performance Survey focused on vessels less than 45 feet LOA which were involved in a mixed fishery. Only those which were registered to fish in lobster fishing areas 27, 28, 29, 30, 31, 32 and 33 were considered in the 1990 survey.

SCOTIA-FUNDY 1990 FLEET LANDINGS[1] AND VALUE

(Preliminary)

TOTAL LANDINGS (Tonnes)	TOTAL VALUE ($)
520,167	435 Million

MIXED FLEETS[2]

(Tonnes)	($)
64,564	158 Million

No. of Vessels 2476

GROUNDFISH VESSELS >65'

(Tonnes)	($)
79,026	41 Million

No. of Vessels 42

HERRING PURSE SEINE FLEET

(Tonnes)	($)
97,807	14 Million

No. of Vessels 36

GROUNDFISH FLEET 35'-64'11"

(Tonnes)	($)
65,868	63 Million

No. of Vessels 384

OFFSHORE SCALLOP FLEETS

(Tonnes)	($)
50,763	52 Million

No. of Vessels 46

LESS THAN $10,000 FLEET

(Tonnes)	($)
2,140	3 Million

No. of Vessels 936

OFFSHORE LOBSTER FLEETS

(Tonnes)	($)
585	4 Million

No. of Vessels 6

BAY OF FUNDY SCALLOP FLEET

(Tonnes)	($)
16,977	18 Million

No. of Vessels 75

OTHER[3]

(Tonnes)	($)
142,437	82 Million

No. of Vessels Unknown

---

[1] See Appendix 1 for fleet definitions.

[2] Part of this fleet is studied in this report.

[3] This group includes vessels that do not fit any of the other fleet criteria.

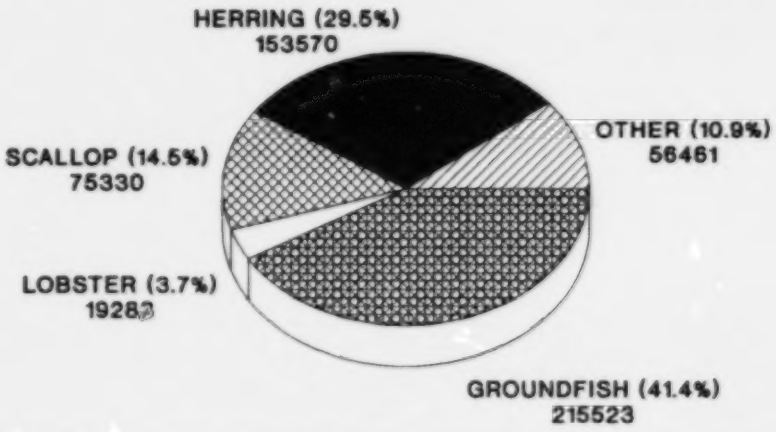
OVERVIEW OF SCOTIA-FUNDY LANDINGS AND VALUE

(Preliminary)

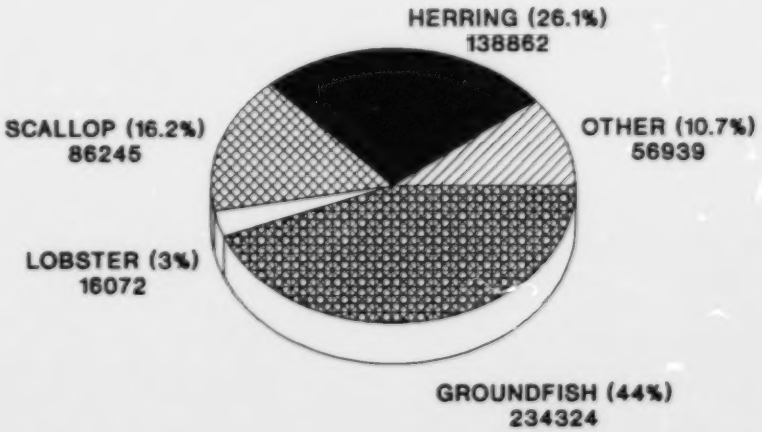
During 1990 a total of 520,167 tonnes of fish with a value of $435,000,000 was landed in the Scotia-Fundy Region. This compares with a total of 532,442 tonnes, having a landed value of $427,000,000 in 1989. The total landings in 1990 decreased from 1989 by 12,275 tonnes while the total value increased by approximately $8,000,000.

The following charts show the 1990 and 1989 volume and value breakdowns by species. The largest 1990 and 1989 volume and value of landings comes from groundfish.

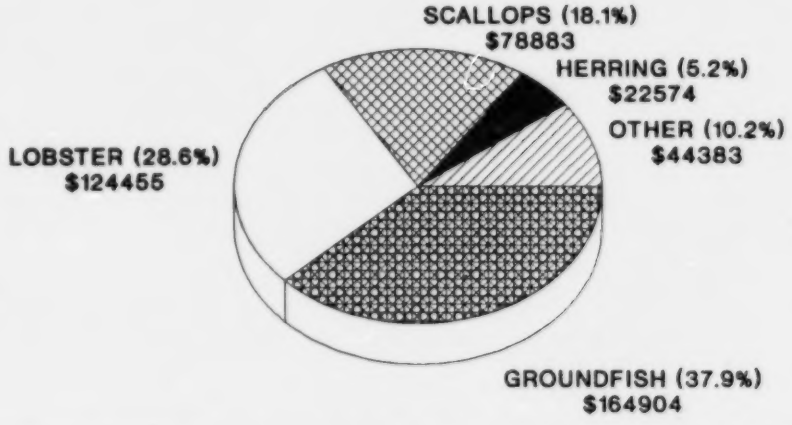
SCOTIA FUNDY 1990 LANDINGS
ROUND WEIGHT TONNES



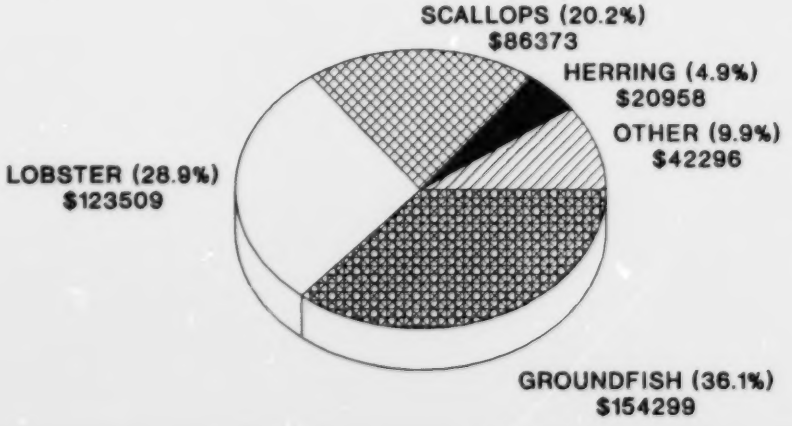
SCOTIA FUNDY 1989 LANDINGS
ROUND WEIGHT TONNES



SCOTIA FUNDY 1990 LANDED VALUE
THOUSANDS OF DOLLARS



SCOTIA FUNDY 1989 LANDED VALUE
THOUSANDS OF DOLLARS



METHODOLOGY

This report provides 1990 costs and earnings information on Scotia-Fundy mixed fleet vessels in lobster fishing areas 27, 28, 29, 30, 31, 32 and 33. (See Appendix 1 for definition)

The following table shows the total number of vessels that meet the above criteria and the breakup of the fleet components:

Fleet Components	Number of Vessels
Group 1 - Cape Breton (LFA 27)	471
Group 2 - South C.B. & Strait Area (LFA 28, 29, 30)	61
Group 3 - Eastern N.S. Mainland (LFA 31, 32)	176
Group 4 - Southern N.S. (LFA 33)	509
TOTAL	1217

A random sample of 190 vessels were selected utilizing catch/effort information from January 1, 1990 to December 31, 1990. The vessels selected for interviews were broken down as follows:

Fleet Components	No. of Vessels	No of Interviews Completed	Percentage Completed
Cape Breton	45	35	77.8
Southern C.B.	30	20	66.7
Eastern N.S.	40	32	80.0
Southern N.S.	75	61	81.3
TOTAL	190	148	77.9

Out of the random sample of 190 vessels, 23 vessel owners refused to be interviewed and 19 vessel owners could not be contacted or interviewed due to time constraints for holding interviews. A total of 148 interviews representing 77.9% of the 190 selected, were completed.

VESSEL CHARACTERISTICS

The mixed fleet vessels are all less than 45'. A large percentage of vessels in the Cape Breton and Eastern Nova Scotia Mainland Sectors have wooden hulls. Southern Cape Breton and Strait Area Sector along with Southern Nova Scotia Sector show the largest percentage of vessels with fiberglass hulls. The type of ownership most prevalent in all sectors is sole proprietorship.

TABLE 1
SELECTED CHARACTERISTICS OF VESSELS

Vessel Characteristics	Sector			
	Cape Breton LFA 27	Southern C.B &Strait Area LFA 28,29,30	Eastern NS Mainland LFA 31,32	Southern N.S. LFA 33
Average Length Overall in Ft.	32	29	30	34
Average Age	10	8	12	10
Average Gross Tonnage	9	8	7	12
Average Brake Horsepower	145	169	141	163
Average Crew Including Skipper	2.2	1.9	1.7	2.0
Average Number of Days Fished	70	77	97	139
Hull Type				
Wood	24	6	20	17
Fiberglass	8	10	8	38
Wood-Covered with Fiberglass	3	4	3	4
Other	-	-	1	2
Ownership Type				
Sole Proprietorship	35	19	32	56
Processing Company	-	-	-	1
Privately Incorporated	-	-	-	1
Fisherman Partnership	-	1	-	3

DEBT AND INVESTMENT

Table 2 shows the number of vessels in each category using various sources to finance their original investment. Commercial banks were the most common source of loans in 1990.

Table 3 shows the average amount borrowed from each source for both the original investment and additions or alterations.

Table 4 indicates investment, broken down by vessel component. Total investment in the surveyed vessels and associated facilities is presented in Table 5. The average debt position of the vessels is presented in Table 6. All fleet sectors on average reported a net decrease in debt from the beginning of 1990 to the end of the year.

TABLE 2
DISTRIBUTION OF VESSELS BY SOURCE OF FINANCING USED FOR VESSEL PURCHASE

	Sector			
	Cape Breton LFA 27	Southern C.B &Strait Area LFA 28,29,30	Eastern NS Mainland LFA 31,32	Southern N.S. LFA 33
Number of Vessels With:				
Federal Subsidy	3	-	2	5
Provincial Subsidy	1	-	-	-
Fisheries Loan Board Loan	8	4	8	18
Commercial Bank Loan	12	7	10	21
Processing Company Loan	1	-	-	-
Other Loans	-	3	4	2
Personal Investment	32	18	24	55
Number of Vessels with Only Personal Investment	14	7	13	20
TOTAL NUMBER OF VESSELS[1]	35	20	32	61

[1] The columns do not add up to the number of vessels in the group since most vessels have more than one source of financing.

TABLE 3
SOURCES OF FINANCING ORIGINAL INVESTMENT[1] IN VESSELS
(DOLLARS)

	Sector			
	Cape Breton LFA 27	Southern C.B &Strait Area LFA 28,29,30	Eastern NS Mainland LFA 31,32	Southern N.S. LFA 33
Original Cost				
Federal Subsidy	857	-	341	1,034
Provincial Subsidy	51	-	-	-
Fisheries Loan Board	7,497	5,583	4,194	10,635
Commercial Bank	7,086	14,000	5,698	8,523
Processing Company	471	-	-	-
Other Loans	-	3,000	1,886	1,066
Personal Investment	12,013	11,710	10,219	22,257
TOTAL ORIGINAL INVESTMENT	27,975	34,293	22,338	43,514
Additions/Alterations				
Federal Subsidy	-	323	91	-
Provincial Subsidy	90	68	-	65
Fisheries Loan Board	229	320	447	353
Commercial Bank	774	325	1,284	1,715
Other Loans	303	-	98	-
Personal Investment	5,072	4,569	4,887	5,729
TOTAL ADDITIONS	6,468	5,604	6,807	7,861

[1] Average original purchase or construction cost to present owner.

TABLE 4
AVERAGE INVESTMENT BY VESSEL COMPONENT
(DOLLARS)

	Sector			
	Cape Breton LFA 27	Southern C.B &Strait Area LFA 28,29,30	Eastern NS Mainland LFA 31,32	Southern N.S. LFA 33
Original Cost				
Hull	14,784	15,784	12,398	25,397
Engine	6,455	7,154	4,347	7,833
Deck Equipment	2,237	1,825	1,860	1,892
Electronic Equipment	3,042	3,130	2,724	5,951
License	1,386	6,350	1,008	2,426
Other	71	50	2	16
TOTAL ORIGINAL COST	27,975	34,293	22,338	43,514
Additional Cost				
Hull	1,176	891	2,916	2,851
Engine	2,780	2,488	2,093	2,456
Deck Equipment	647	1,151	493	468
Electronic Equipment	1,776	1,074	1,305	2,085
Other	89	-	-	-
TOTAL ADDITIONS	6,468	5,604	6,807	7,861
TOTAL	34,443	39,897	29,145	51,375

TABLE 5
SUMMARY OF AVERAGE TOTAL INVESTMENT
(DOLLARS)

	Sector			
	Cape Breton LFA 27	Southern C.B &Strait Area LFA 28,29,30	Eastern NS Mainland LFA 31,32	Southern N.S. LFA 33
Average Vessel Investment	34,443	39,897	29,145	51,375
Average Facility Investment	5,517	8,170	2,930	4,542
Average Vessel + Facility Investment	39,960	48,067	32,074	55,917
Less Average Vessel Subsidies	999	390	431	1,099
Average Net Investment	38,961	47,677	31,643	54,818

TABLE 6
AVERAGE DEBT POSITION
(DOLLARS)

	Sector			
	Cape Breton LFA 27	Southern C.B &Strait Area LFA 28,29,30	Eastern NS Mainland LFA 31,32	Southern N.S. LFA 33
Debt Balance - January 1/90	8,955	14,504	6,187	10,514
Add New Debt 1990	217	-	386	1,816
Unpaid Interest, 1990	19	-	-	18
Debt Balance - December 31/90	7,332	12,730	5,048	10,414
Subtract - Principal Paid[1]	1,858	1,774	1,525	1,933
NET CHANGE IN DEBT	-1,623	-1,774	-1,139	- 100

[1] Includes payments made on interest arrears.

EFFORT, LANDINGS, LANDED VALUE

Table 7 shows distribution of vessels by gear fished; Table 8 shows vessel distribution by days fished and days at sea; Tables 9 and 10 show days fished and days at sea by gear type; Tables 11 and 12 show species round weight and value by gear type; Table 13 shows average round weight by species by sector; Table 14 shows average value by species by sector; Tables 15 and 16 provide information on the distribution of vessels by range of landings and values by sector.

TABLE 7
DISTRIBUTION BY TYPE OF GEAR FISHED
(NUMBER OF VESSELS)

Gear Type	Sector			
	Cape Breton LFA 27	Southern C.B &Strait Area LFA 28,29,30	Eastern NS Mainland LFA 31,32	Southern N.S. LFA 33
Set Gillnet Groundfish	-	-	11	26
Handline Groundfish	6	-	12	30
Mobile Groundfish	1	-	-	-
Longline Groundfish	5	5	18	24
Set Gillnet Herring	-	1	2	4
Set Gillnet Mackerel	3	5	4	5
Handline Mackerel	17	3	-	-
Longline Swordfish	-	-	-	1
Lobster Trap	35	20	28	53
Scallop Drag	4	2	1	-

The colums do not add up to the number of vessels in each section since most vessels have more than one gear type

TABLE 8
DISTRIBUTION BY CLASS BY NUMBER OF DAYS AT SEA AND DAYS FISHED

	Sector			
	Cape Breton LFA 27	Southern C.B &Strait Area LFA 28,29,30	Eastern NS Mainland LFA 31,32	Southern N.S. LFA 33
Number of Days at Sea				
26- 50	6	-	3	2
51- 75	15	10	9	2
76-100	10	7	7	10
101-125	4	2	4	9
126-150	-	1	5	14
151+	-	-	4	24
Number of Days Fishing				
26- 50	7	-	4	2
51- 75	14	10	8	2
76-100	10	7	7	13
101-125	4	2	4	8
126-150	-	1	5	12
151+	-	-	4	24

Does not include bait fishing.

TABLE 9
AVERAGE NUMBER OF DAYS AT SEA BY GEAR

	Sector			
	Cape Breton LFA 27	Southern C.B &Strait Area LFA 28,29,30	Eastern NS Mainland LFA 31,32	Southern N.S. LFA 33
Groundfish				
Gillnet	-	-	18	32
Longline	2	9	19	12
Handline	3	-	7	18
Pelagics and Estuarial				
Herring Set Gillnet	-	-	1	-
Mackerel Set Gillnet	1	5	-	1
Mackerel Handline	9	2	-	-
Molluscs and Crustaceans				
Lobster Trap	51	53	51	79
Crab Trap	2	6	2	-
Scallop Drag	3	3	-	-
TOTAL DAYS AT SEA	71	77	98	142

Does not include bait fishing.

TABLE 10
AVERAGE NUMBER OF DAYS FISHED BY GEAR

	Sector			
	Cape Breton LFA 27	Southern C.B &Strait Area LFA 28,29,30	Eastern NS Mainland LFA 31,32	Southern N.S. LFA 33
Groundfish				
Gillnet	-	-	18	31
Longline	2	9	19	11
Handline	3	-	7	18
Pelagics and Estuarial				
Herring Set Gillnet	-	-	1	-
Mackerel Set Gillnet	1	5	-	1
Mackerel Handline	9	2	-	-
Molluscs and Crustaceans				
Lobster Trap	50	53	50	78
Crab Trap	2	6	2	-
Scallop Drag	3	3	-	-
TOTAL DAYS FISHED	70	77	97	139

Does not include bait fishing

TABLE 11
AVERAGE LANDINGS BY TYPE OF GEAR
(ROUND WEIGHT KG)

	Sector			
	Cape Breton LFA 27	Southern C.B &Strait Area LFA 28,29,30	Eastern NS Mainland LFA 31,32	Southern N.S. LFA 33
Groundfish				
Mobile Gear	33	-	-	-
Set Gillnet	-	-	5,540	21,714
Longline	1,065	1,984	5,488	6,602
Handline	633	-	602	3,705
Pelagic and Estuarial				
Set Gillnet Herring	-	5	217	240
Set Gillnet Mackerel	441	1,706	482	631
Handline Mackerel	4,566	573	-	-
Longline Swordfish	-	-	-	2
Molluscs and Crustaceans				
Lobster Trap	7,573	5,449	2,834	4,460
Crab Trap	1,671	4,151	355	-
Scallop Drag	442	441	9	-
Shark with Groundfish Mobile Gear	-	7	4	7
TOTAL ROUND WEIGHT	16,424	14,317	15,532	37,360

TABLE 12
AVERAGE LANDED VALUE BY TYPE OF GEAR
(DOLLARS)

	Sector			
	Cape Breton LFA 27	Southern C.B &Strait Area LFA 28,29,30	Eastern NS Mainland LFA 31,32	Southern N.S. LFA 33
Groundfish				
Mobile Gear	29	-	-	-
Set Gillnet	-	-	4,184	19,465
Longline	787	1,593	4,556	6,976
Handline	517	-	451	3,843
Pelagic and Estuarial				
Set Gillnet Herring	-	1	49	53
Set Gillnet Mackerel	181	658	203	225
Handline Mackerel	1,286	223	-	-
Longline Swordfish	-	-	-	15
Molluscs and Crustaceans				
Lobster Trap	37,884	34,243	15,139	30,452
Crab Trap	3,554	9,321	391	-
Scallop Drag	557	582	9	-
Shark with Groundfish Longline	-	7	3	13
TOTAL LANDED VALUE	44,795	46,628	24,985	61,043

TABLE 13
AVERAGE LANDINGS BY SPECIES BY SECTOR
(ROUND WEIGHT KG)

	Sector			
	Cape Breton LFA 27	Southern C.B &Strait Area LFA 28,29,30	Eastern NS Mainland LFA 31,32	Southern N.S. LFA 33
Groundfish				
Cod	1,674	1,663	7,969	13,068
Haddock	-	-	637	2,470
Redfish	-	-	18	-
Flounder Unspecified	9	78	62	19
Halibut	4	92	148	247
Pollock	3	-	1,381	14,096
Hake Silver	5	3	1,242	1,302
Cusk	-	-	15	568
Catfish	34	145	119	26
Unspecified Groundfish	3	3	14	182
Pelagic and Estuarial				
Herring	-	5	217	240
Mackerel	5,008	2,280	482	631
Swordfish	-	-	1	5
Molluscs and Crustaceans				
Lobster	7,573	5,449	2,834	4,460
Scallop	442	441	9	-
Crab	1,671	4,151	355	-
Unspecified Fish	-	7	29	26
TOTAL ROUND WEIGHT	16,424	14,317	15,532	37,360

TABLE 14
AVERAGE LANDED VALUE BY SPECIES BY SECTOR
(DOLLARS)

	Sector			
	Cape Breton LFA 27	Southern C.B &Strait Area LFA 28,29,30	Eastern NS Mainland LFA 31,32	Southern N.S. LFA 33
Groundfish				
Cod	1,299	1,063	6,003	14,034
Haddock	-	-	911	3,359
Redfish	-	-	5	-
Flounder Unspecified	7	57	32	13
Halibut	14	421	700	1,245
Pollock	1	-	745	10,236
Hake Silver	2	1	731	911
Cusk	-	-	6	338
Catfish	9	47	35	6
Unspecified Groundfish	1	4	8	92
Pelagic and Estuarial				
Herring	-	1	49	53
Mackerel	1,467	882	203	225
Swordfish	-	-	4	31
Molluscs and Crustaceans				
Lobster	37,884	34,243	15,139	30,452
Scallop	557	582	9	-
Crab	3,554	9,321	391	-
Unspecified Fish	-	7	17	37
TOTAL LANDED VALUE	44,795	46,628	24,985	61,043

TABLE 15
DISTRIBUTION OF VESSELS BY RANGE OF LANDED VOLUME BY SECTOR
(ROUND WEIGHT KILOGRAMS)

Landings Round Weight	Sector			
	Cape Breton LFA 27	Southern C.B &Strait Area LFA 28,29,30	Eastern NS Mainland LFA 31,32	Southern N.S. LFA 33
1- 5,000	2	5	11	5
5,001- 10,000	11	3	6	9
10,001- 20,000	14	8	4	18
20,001- 30,000	2	-	6	12
30,001- 40,000	4	4	2	6
40,001- 50,000	1	-	2	2
50,001- 75,000	1	-	1	4
100,001-150,000	-	-	-	3
200,001-250,000	-	-	-	1
450,001-500,000	-	-	-	1

TABLE 16
DISTRIBUTION OF VESSELS BY RANGE OF LANDED VALUE BY SECTOR

Landed Value Dollars	Sector			
	Cape Breton LFA 27	Southern C.B &Strait Area LFA 28,29,30	Eastern NS Mainland LFA 31,32	Southern N.S. LFA 33
10,001- 20,000	4	6	14	9
20,001- 30,000	4	3	9	8
30,001- 40,000	9	2	6	5
40,001- 50,000	9	3	3	6
50,001- 75,000	6	3	-	21
75,001-100,000	2	-	-	5
100,001-150,000	1	3	-	4
150,001-200,000	-	-	-	2
400,001-450,000	-	-	-	1

FINANCIAL PERFORMANCE

Table 17 provides an indication of the average vessel revenue and expenses for each sector. All sectors show a positive return to vessels.

Table 18 shows average cash flow by sector.

TABLE 17
REVENUE AND COSTS BY SECTOR
(DOLLARS)

	Sector			
	Cape Breton LFA 27	Southern C.B &Strait Area LFA 28,29,30	Eastern NS Mainland LFA 31,32	Southern N.S. LFA 33
TOTAL FISH SALES	**44,795**	**46,628**	**24,985**	**61,043**
Variable Costs				
Fuel	2,211	2,541	2,081	3,867
Bait	2,046	1,292	1,891	2,761
Ice Salt	41	53	62	311
Provisions	14	98	224	177
Workmens Compensation	-	-	-	106
Non-Fish Labour	34	851	421	351
Facilities Operating Costs	147	142	178	157
Other Operating Costs	601	44	257	463
VARIABLE COSTS INCLUDING FACILITIES SUBTOTAL	5,093	5,021	5,113	8,193
REPAIR AND MAINTENANCE	1,234	985	1,183	1,452
NET GEAR EXPENSE	2,250	1,989	1,653	3,088
Fixed Costs				
Vessel Insurance	654	592	314	853
Vessel Interest	1,093	2,004	720	1,356
Vessel Rentals	29	8	-	29
Storage	-	-	5	-
Fees	291	315	230	300
Wharfage	4	-	1	8
Other Fixed Costs	162	364	606	1,013
Facilities Fixed Costs	41	10	-	4
FIXED COSTS SUBTOTAL	2,274	3,292	1,876	3,563
TOTAL OPERATING COSTS	10,852	11,288	9,825	16,297

(Continued)

TABLE 17 - CONTINUED
REVENUE AND COSTS BY SECTOR
(DOLLARS)

	Sector			
	Cape Breton LFA 27	Southern C.B &Strait Area LFA 28,29,30	Eastern NS Mainland LFA 31,32	Southern N.S. LFA 33
RETURNS BEFORE LABOUR AND DEPRECIATION	**33,944**	**35,340**	**15,161**	**44,746**
CREWSHARE	10,238	9,576	4,306	16,058
RETURNS TO SKIPPER AND OWNER BEFORE DEPRECIATION	**23,706**	**25,764**	**10,854**	**28,687**
VESSEL TOTAL DEPRECIATION	2,727	2,790	2,360	3,373
FACILITIES DEPRECIATION	298	415	149	247
RETURNS TO OWNERS AND SKIPPERS	**20,681**	**22,559**	**8,345**	**25,067**
SKIPPER SHARE[1]	9,045	10,624	8,224	16,725
Skipper Owner Share	9,045	10,344	8,224	16,153
Skipper Hired Share	-	280	-	572
RETURNS TO VESSEL	**11,636**	**11,935**	**121**	**8,342**

[1] The skipper's share shown here is the average amount of skipper's share over the season whether the skipper was hired or was the owner. The next two lines show the amount paid to owner skipper and hired skipper. This does not mean that the average amount earned by a hired skipper, rather it is the total amount of hired skipper dollars averaged over the fleet. In many cases both hired skipper and skipper owners served as captain on the same vessel at different points during the year.

TABLE 18
CASH FLOW BY SECTOR
(DOLLARS)

	Sector			
	Cape Breton LFA 27	Southern C.B &Strait Area LFA 28,29,30	Eastern NS Mainland LFA 31,32	Southern N.S. LFA 33
TOTAL FISH SALES	**44,795**	**46,628**	**24,985**	**61,043**
VARIABLE COST SUBTOTAL	5,093	5,021	5,113	8,193
Repair and Maintenance Costs	1,234	985	1,183	1,452
Maintenance and Repair Gear	2,250	1,989	1,653	3,088
FIXED COSTS EXCLUDING INTEREST SUBTOTAL	1,181	1,288	1,156	2,207
TOTAL OPERATING COSTS	**9,758**	**9,284**	**9,105**	**14,941**
CREWSHARE[1]	**10,238**	**9,576**	**4,306**	**16,058**
Financial Costs				
Principal Paid	1,858	1,774	1,525	1,933
Interest Paid	1,075	2,004	720	1,339
TOTAL FINANCIAL COSTS	**2,935**	**3,778**	**2,245**	**3,272**
RETURNS TO OWNERS AND SKIPPERS	**21,866**	**23,990**	**9,329**	**26,772**
SKIPPER HIRED SHARE	**-**	**280**	**-**	**572**
CASH FLOW TO OWNERS	**21,866**	**23,710**	**9,329**	**26,200**

[1] Does not include skipper owners or hired skipper share.

APPENDIX 1

SCOTIA-FUNDY FLEET BREAKDOWN

4VW GF LONGLINE 35-64'11"	vessels with LOA of 35' TO 64'11"; home ports in 4VW; earning at least $10,000; earning at least 80% of the total value from groundfish using longline.
4VW GF MOBILE 35-44'11"	vessels with LOA 35'-44'11"; home ports in 4VW; earning at least $10,000; earning at least 80% of the total value from groundfish using mobile gear.
4VW GF MOBILE 45'-64'11"	vessels with LOA 45'-64'11"; home ports in 4VW; earning at least $10,000; earning at least 80% of the total value from groundfish using mobile gear.
4X GF LONGLINE 35'-44'11"	vessels with LOA 35'-44'11"; home ports in 4X; earning at least $10,000; earning at least 80% of the total value from groundfish using longline gear.
4X GF LONGLINE 45'-64'11"	vessels with LOA 45'-64'11"; home ports in 4X; earning at least $10,000; earning at least 80% of the total value from groundfish using longline gear.
4X GF MOBILE 35'-44'11"	vessels with LOA 35'-44'11"; home ports in 4X; earning at least $10,000; earning at least 80% of the total value from groundfish using mobile gear.
4X GF MOBILE 45'-64'11"	vessels with LOA 45'-64'11"; home ports in 4X; earning at least $10,000; earning at least 80% of the total value from groundfish using mobile gear.
GF/SWORDFISH 35'-64'11"	vessels with LOA 35' to 64'11"; home ports in Scotia-Fundy; earning at least $10,000; earning at least 33% of the total value from swordfish and at least 80% of total value from groundfish plus swordfish using longline gear.

Continued

APPENDIX 1 CONTINUED

GF LONGLINE 65'-99'	vessels with LOA 65' to 99'; home ports in Scotia-Fundy; earning at least $10,000; earning at least 80% of the total value from groundfish using longline gear.
GF MOBILE 65'-99'	vessels with LOA 65' to 99'; home ports in Scotia-Fundy; earning at least $10,000; earning at least 80% of the total value from groundfish using mobile gear.
GF GE 100'	vessels with LOA greater than or equal to 100'; home ports in Scotia-Fundy; earning at least $10,000; earning at least 80% of the total value from groundfish.
BAY OF FUNDY SCALLOP	vessels which hold a Bay of Fundy scallop license; with home ports in Scotia-Fundy; earning at least $10,000; earning at least 80% of the total value from scallops.
OFFSHORE SCALLOPS	vessels with home ports in Scotia-Fundy; earning at least $10,000; earning at least 80% of the total value from scallops; holding offshore scallop license.
HERRING PURSE SEINE	vessels with home ports in Scotia-Fundy; earning at least $10,000; earning at least 80% of the total value using herring purse seine gear.
MIXED LFA 27	vessels with LOA less than 45'; home ports in Lobster Fishing Area (LFA)27; earning at least $10,000; not in above specialized fleets.
MIXED LFA 28-30	vessels with LOA less than 45'; home ports in LFA'S 28, 29 or 30; earning at least $10,000; not in above specialized fleets.
MIXED LFA 31-32	vessels with LOA less than 45'; home ports in LFA'S 31 or 32; earning at least $10,000; not in above specialized fleets.

Continued

APPENDIX 1 CONTINUED

MIXED LFA 33	vessels with LOA less than 45'; home ports in LFA'S 33; earning at least $10,000; not in above specialized fleets.
MIXED LFA 34	vessels with LOA less than 45'; home ports in LFA'S 34; earning at least $10,000; not in above specialized fleets.
MIXED LFA 35	vessels with LOA less than 45'; home ports in LFA'S 35; earning at least $10,000; not in above specialized fleets.
MIXED LFA 36	vessels with LOA less than 45'; home ports in LFA'S 36; earning at least $10,000; not in above specialized fleets.
MIXED LFA 38	vessels with LOA less than 45'; home ports in LFA'S 38; earning at least $10,000; not in above specialized fleets.
OFFSHORE LOBSTER	vessels with home ports in Scotia-Fundy; earning at least 80% of the total value from lobster; holding an offshore lobster license.
LESS THAN $10,000	vessels with home ports in Scotia-Fundy; earning less than $10,000.

APPENDIX 2
CONFIDENCE INTERVALS FOR SAMPLE DATA

Sector	Total Landed Value (Dollars)		LOA	
	Interval[1] Based on Sample Data	Population Average	Interval Based on Sample Data	Population Average
Cape Breton (LFA 27)	37,362 - 52,228	41,676	30 - 34	32
Southern Cape Breton and Strait Area (LFA 28, 29 & 30)	29,937 - 63,319	37,349	27 - 31	28
Eastern N.S. Mainland (LFA 31 & 32)	21,250 - 28,724	31,176	29 - 31	30
Southern Nova Scotia (LFA 33)	46,558 - 75,528	52,932	33 - 35	34

Using the sample data on two variables - revenue and LOA, confidence intervals were computed. The sample chosen for Eastern Nova Scotia Mainland does not fall within the confidence intervals for revenue. The total population for this sector had several high income longline vessels less than 35 feet. None of the vessels were selected in the random sample.

[1] Using the t distribution due to small sample sizes, and using 95% confidence level.

APPENDIX 3
TABLE A - PERCENTAGE OF VESSELS BY LOA
FOR POPULATION AND CORRESPONDING SAMPLE

	Sector							
	Cape Breton LFA 27		Southern C.B. & Strait Area LFA 28,29,30		Eastern N.S. Mainland LFA 31, 32		Southern N.S LFA 33	
LOA	% pop	% sample	% pop	% sample	% pop	% sample	% pop	% sample
0 - 14	-	-	-	-	-	-	-	-
15 - 19	2	3	9	5	5	-	3	2
20 - 24	2	3	16	10	5	9	5	2
25 - 29	24	23	33	35	33	38	6	3
30 - 34	49	48	28	40	49	50	38	31
35 - 39	20	20	11	10	4	-	38	51
40 - 44	3	3	3	-	4	3	10	11

APPENDIX 3
TABLE B - PERCENTAGE OF VESSELS BY AGE

	Sector							
	Cape Breton LFA 27		Southern C.B. & Strait Area LFA 28,29,30		Eastern N.S. Mainland LFA 31, 32		Southern N.S LFA 33	
Age (Years)	% pop	% sample	% pop	% sample	% pop	% sample	% pop	% sample
Less than 5	33	26	26	30	30	22	30	29
5 - 9	25	31	28	45	29	35	26	25
10 - 14	23	20	17	5	15	19	20	26
15 - 19	12	14	9	15	15	6	12	8
20 - 24	3	3	8	5	5	6	5	5
25 +	4	6	12	-	6	12	7	7

APPENDIX 3
TABLE C - PERCENTAGE OF VESSELS BY GROSS TONNAGE

	Sector							
	Cape Breton LFA 27		Southern C.B. & Strait Area LFA 28,29,30		Eastern N.S. Mainland LFA 31, 32		Southern N.S LFA 33	
Gross Tonnage	% pop	% sample	% pop	% sample	% pop	% sample	% pop	% sample
Less than 5	15	20	35	30	21	25	11	5
5 - 9	40	37	41	45	52	56	22	25
10 - 14	37	37	18	20	21	16	49	53
15 - 19	7	6	4	-	-	-	8	5
20 - 24	-	-	1	5	2	-	3	5
25 - 29	1	-	-	-	2	3	3	5
30 - 34	-	-	1	-	1	-	2	2
35 - 39	-	-	-	-	1	-	1	-
40 - 44	-	-	-	-	-	-	1	-

APPENDIX 4

TABLE A - DISTRIBUTION OF SAMPLE VESSELS BY LOA (NUMBER OF VESSELS)

LOA	Sector			
	Cape Breton LFA 27	Southern C.B. & Strait Area LFA 28,29,30	Eastern N.S. Mainland LFA 31, 32	Southern N.S LFA 33
0 - 14	-	-	-	-
15 - 19	1	1	-	1
20 - 24	1	2	3	1
25 - 29	8	7	12	2
30 - 34	17	8	16	19
35 - 39	7	2	-	31
40 - 44	1	-	1	7
TOTAL	35	20	32	61

APPENDIX 4
TABLE B - DISTRIBUTION OF SAMPLE VESSELS BY AGE

Age	Sector			
	Cape Breton LFA 27	Southern C.B. & Strait Area LFA 28,29,30	Eastern N.S. Mainland LFA 31, 32	Southern N.S LFA 33
1	-	-	-	-
2	2	1	2	2
3	3	1	1	9
4	4	4	4	7
5	-	3	4	7
6	1	2	2	2
7	4	1	2	2
8	4	2	2	3
9	2	1	1	1
10	1	-	1	6
11	3	-	1	3
12	2	-	1	3
13	1	-	3	3
14	-	1	-	1
15	2	-	-	2
16	1	-	-	2
17	-	1	1	1
18	1	2	1	-
19	1	-	-	-
20	1	-	-	1
21	-	-	-	1
22	-	1	1	-
23	-	-	-	1
24	-	-	1	-
25	-	-	1	1
26 +	2	-	3	3
TOTAL	35	20	32	61

APPENDIX 4
TABLE C - DISTRIBUTION OF SAMPLE VESSELS BY GROSS TONNAGE

Gross Tonnage	Sector			
	Cape Breton LFA 27	Southern C.B. & Strait Area LFA 28,29,30	Eastern N.S. Mainland LFA 31, 32	Southern N.S LFA 33
< 5	7	6	8	3
5 - 9	13	9	18	16
10 - 14	13	4	5	32
15 - 19	2	-	-	3
20 - 24	-	1	-	3
25 - 29	-	-	1	3
30 - 34	-	-	-	1
TOTAL	35	20	32	61

APPENDIX 4
TABLE D - DISTRIBUTION OF SAMPLE VESSELS BY BRAKE HORSEPOWER

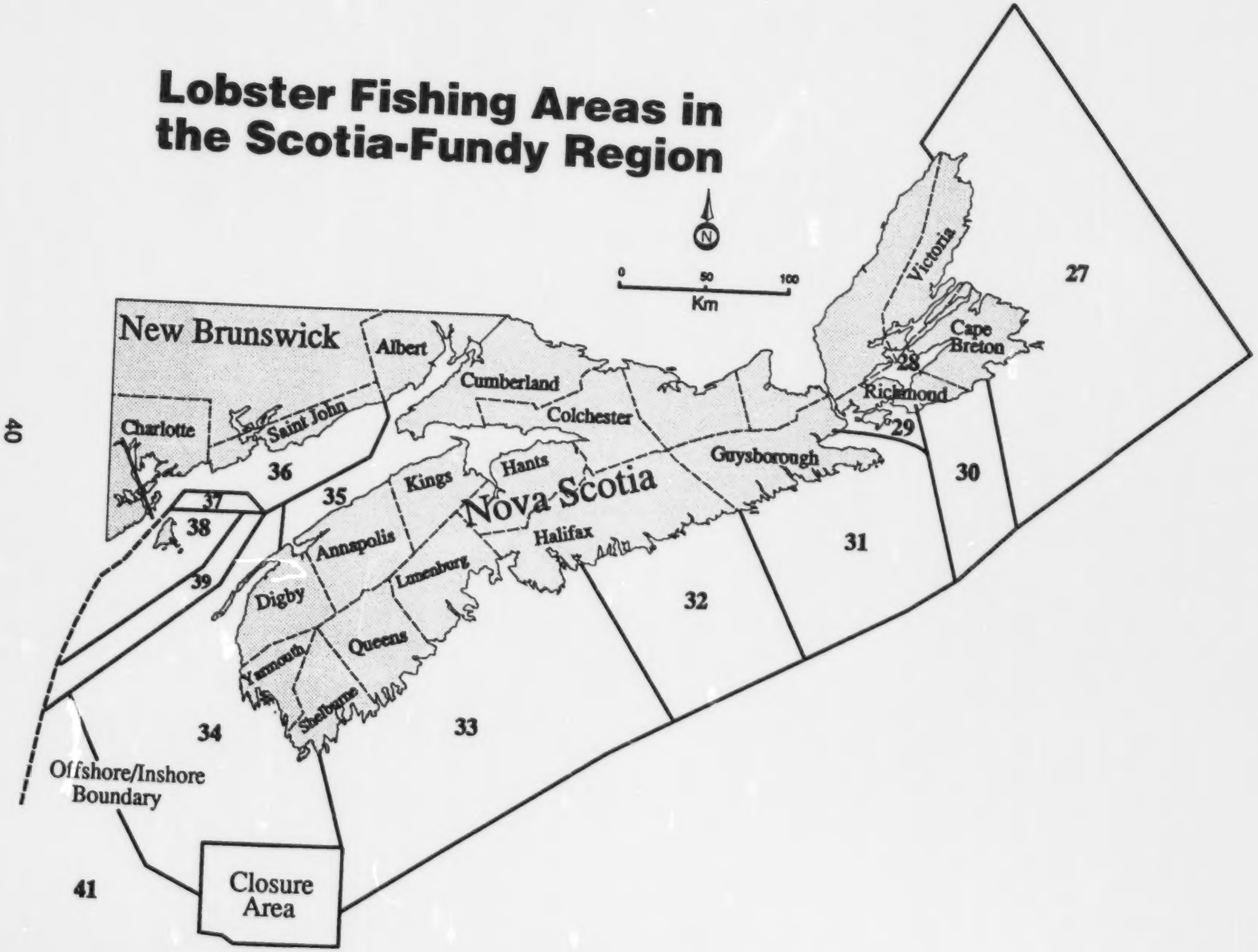
Brake Horsepower	Sector			
	Cape Breton LFA 27	Southern C.B. & Strait Area LFA 28,29,30	Eastern N.S. Mainland LFA 31, 32	Southern N.S LFA 33
0 - 9	-	-	-	-
10 - 19	-	-	-	-
20 - 39	2	1	1	2
40 - 49	-	-	-	-
50 - 59	-	1	-	-
60 - 69	-	-	1	-
70 - 79	-	2	-	1
80 - 89	-	1	5	2
90 - 99	2	-	2	1
100 - 149	15	2	4	17
150 - 199	13	7	15	24
200 - 249	1	2	3	6
250 - 299	1	3	1	7
300 - 349	-	1	-	1
350 - 399	1	-	-	-
TOTAL	35	20	32	61

APPENDIX 4
TABLE E - DISTRIBUTION OF SAMPLE VESSELS
BY AVERAGE CREW SIZE INCLUDING SKIPPER

Crew size	Sector			
	Cape Breton LFA 27	Southern C.B. & Strait Area LFA 28,29,30	Eastern N.S. Mainland LFA 31, 32	Southern N.S LFA 33
1.0 - 1.4	2	6	12	15
1.5 - 1.9	5	1	4	11
2.0 - 2.4	14	9	14	22
2.5 - 2.9	10	1	1	4
3.0 - 3.4	4	2	1	7
3.5 - 3.9	-	1	-	2
TOTAL	35	20	32	61

APPENDIX 4
TABLE F - AVERAGE NUMBER OF DAYS
FISHING BAIT

	Sector			
	Cape Breton LFA 27	Southern C.B &Strait Area LFA 28,29,30	Eastern NS Mainland LFA 31,32	Southern N.S. LFA 33
Gross Days Fishing Bait (Any day bait was fished)	30	41	24	28
Days Fishing Bait Only	3	7	5	9
Number of Vessels Fishing Bait	27	20	23	40


Lobster Fishing Areas in the Scotia-Fundy Region
N
0
50
100
Km
New Brunswick
Albert
Cumberland
Colchester
Victoria
Cape Breton
Richmond
Charlotte
Saint John
Kings
Hants
Guysborough
Nova Scotia
Annapolis
Halifax
Digby
Lunenburg
Queens
Yarmouth
Shelburne
Offshore/Inshore Boundary
Closure Area
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41